RV Ocean Veritas Data Summary
Cruise 6/26/2010

Review Date 6/27/10

Summary:

This sampling report presents data collected from the RV Ocean Veritas for the period of 6/26/2010. The RV Ocean Veritas will alternate with the Brooks McCall in the collection of subsurface data associated with the Deepwater Horizon oil spill. The sampling strategy for the day, based on input from the Brooks McCall on June 25, was to begin to the southwest of the wellhead, about 2 km out, which is presumed to be near the southern edge of the plume. The Ocean Veritas would then move to the west and north. Stations occupied during this reporting period include OV063, OV064, OV065, OV066 and OV067. A total of 5 CTD casts were completed on 6/26/2010.

The Ocean Veritas provided the following definition to provide terminology on how subsurface oil is referred to:
Oil Plume: concentrations of hydrocarbons (above background) detected in the water column via fluorometry and LISST particle analysis that appears to be part of a larger pattern of dissolved oil, naturally dispersed oil and/or chemically dispersed oil.

The CTD array data showed fluorescence signals at Stations OV063, OV064, OV066 and OV067. No fluorescence signals were detected at Station OV065.

A total of 12,535 gallons of subsurface dispersant were used on 6/26/2010. The average injection rate was not provided.

Samples for Rototox analysis were collected from stations OV063, OV064 and OV066. Results of these tests will be available tomorrow.

CTD Fluorometry & Dissolved Oxygen:

Station OV063, located 2 km southwest of the wellhead, showed a fluorescence signal from 1100-1150 m. There were no associated drops in dissolved oxygen. The signal at this station was stronger than expected, so the Ocean Veritas moved due south 1 km to try to find the southern edge of the plume. Station OV064, located 1 km due south of OV063, detected a fluorescence signal at 1230m, with no associated drop in dissolved oxygen. The Ocean Veritas believed this to be close to the southern edge of the plume. Station OV065, located 2 km west of the wellhead, did not detect any fluorometric signals. Because of the lack of fluorometric signals at OV065, the Ocean Veritas abandoned the plan to move west and north, and instead returned to the southwest of the wellhead. Station OV066, located 5 km southwest of the

wellhead, had a fluorescence signal from 1075-1100 m, and another peak from 1175-1200 m. A drop in dissolved oxygen was detected above the fluorescence signals, from 925-975 m. Station OV067, located 7 km southwest of the wellhead, detected a fluorescence signal from 1130-1160 m. No associated decrease in dissolved oxygen was observed.

Based on this information, the Ocean Veritas reported the subsurface plume appears to have shifted to the southwest, extending approximately 7 km. All of the fluorometric results were between 1100 and 1200 meters, which is consistent with previous cruises.

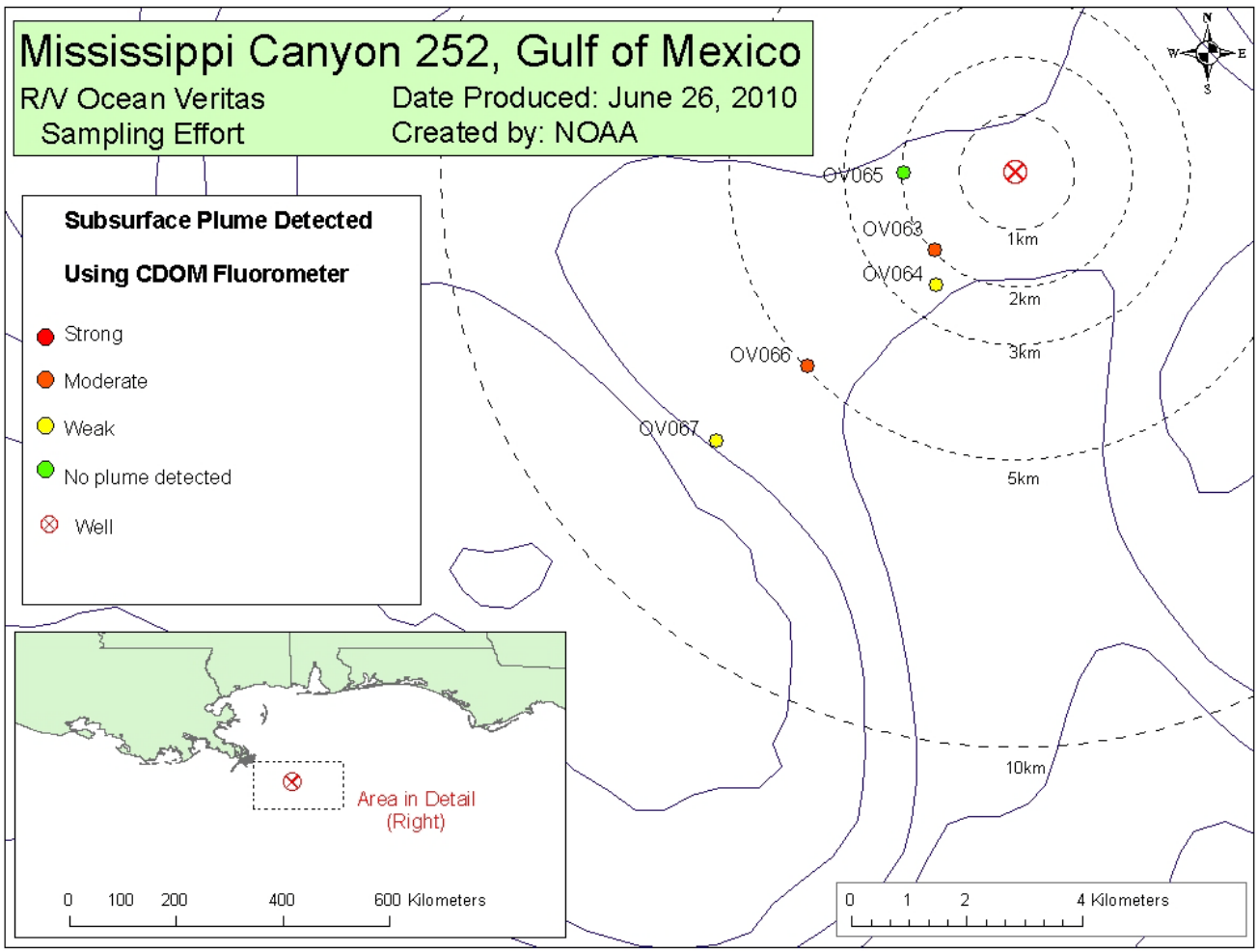
LISST Data:
The LISST data was collected at the five sampled stations. Eighty-five (85) LISST samples were collected from all five sample locations. Slightly elevated concentrations of small particles were detected in the deepwater plume (approximately 1150 m) at Station OV063. The increased small particle concentrations also correspond to the data from the in situ CTD fluorometer.

Toxicity Testing (Rototox Assay) (data collected from 6/26):
Samples for Rototox analysis were collected from stations OV063, OV064 and OV066. Results of these tests will be available tomorrow.

Chemical Analyses (TPH and VOCs) (data collected from 6/26):
No data were provided for review at this time due to laboratory lag time.

Problems/Operation issues:
The low dissolved oxygen values reported a couple of weeks ago by the Ocean Veritas were an error. The scale on the CTD trace was changed to read in ml/L rather than mg/L. At the time, no one noticed. After checking, the DO values from the CTD casts reported by the Ocean Veritas between 6/8/2010 and 6/16/2010 are all in ml/L. This change was noticed and the CTD data were corrected beginning on 6/22/2010 to read in mg/L. The Ocean Veritas thought they were reading DO in mg/L during the period of 6/8/2010-6/16/2010, so the values were not really low, as discussed in the associated daily summaries.

Due to an unresolved issue with the sample coding protocols, the Excel sample spreadsheet is not included with today's daily report. It will be transmitted once the issue is resolved.


Mississippi Canyon 252, Gulf of Mexico
R/V Ocean Veritas
Sampling Effort
Date Produced: June 26, 2010
Created by: NOAA
Subsurface Plume Detected
Using CDOM Fluorometer
Strong
Moderate
Weak
No plume detected
Well
OV065
OV063
OV064
OV066
OV067
1km
2km
3km
5km
10km
N
W
E
S
Area in Detail
(Right)
0 100 200 400 600 Kilometers
0 1 2 4 Kilometers